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REMARKS

Claims 45-76 are now pending in this application. Claims 49, 65, 72 and 74 have been amended. Reconsideration is respectfully requested in view of the following remarks.

Claims 45-55 and 58-76 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,666,293 to Metz (Metz) in view of U.S. Patent No. 6,675,385 to Wang (Wang) in view of Fang (6,816,201). Claims 56 and 57 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Metz, Wang, and Fang as applied to claim 48 and further in view of Machida (US 2003/0158932).

The claims as now presented, specifically independent claims 45, 65 and 69, are directed at a network and method of reconfiguring an existing base of IRDs to deliver additional information such as electronic program guides or Web data to a user without modification to the IRD hardware. The IRD's low-speed serial data port, ordinarily used to debug the IRD, is reconfigured via software means to provide a low-speed data link to a viewing device (other than the video display device e.g. a TV, for displaying the broadcast television signals). The additional information is inserted in the satellite broadcast that is downloaded to the IRD. The software extraction means installed in the IRD extracts the additional information and directs it to the IRD's serial data port. A software application in the viewing device retrieves data from its serial data port and stores it in memory for display. The existing base of IRDs is reconfigured to provide this capability without internal modifications of the IRD hardware.

The Examiner relies on Metz to provide a DSS terrestrial satellite communications network including an existing base of IRDs each having a high speed port to stream broadcast television signals and a low speed serial data port ordinarily used to debug the IRD. Metz provides the capability to download operating system software and applications software to the set-top terminal device (IRD). The Examiner cites to Wang as providing additional information within the satellite broadcast channels. In Wang this additional information is sent over the same high speed port to

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the same viewing device. Lastly, the Examiner cites to Fang as disclosing a receiving system wherein additional information is "extracted and transmitted" through second serial data port connection to another viewing device. In Fang, Data Slicer 16 is coupled to the tuner and extracts an XDS signal 30 carried by the decoded video signal 28, for example by stripping or duplicating the XDS signal 30. Fang provides the motivation of the typical benefit of more effectively using information available within a television broadcast signal by not obscuring the video display.

Applicant respectfully disagrees with the Examiner's conclusion that it would be obvious to modify Metz's system in light of Wang and Fang to sustain a rejection of Applicant's claims 45, 65 and 69. Metz does disclose that operating system and application software can be downloaded to the IRD. Metz does not disclose how software could be downloaded to reconfigure the existing IRD to (a) extract the additional information from the data stream and (b) reroute the additional information from the high speed port through the second low-speed data port. The Examiner relies on Fang to disclose the means for "extracting and transmitting" the additional data through the second serial data port. First, Fang clearly teaches a hardware solution to the extraction of the additional information in the form of data slicer 16. The extracted additional information signal is then routed through a TV microcomputer to the serial data port in Fang's dedicated design. Second, Fang clearly discloses extracting the additional data signal from the "video TV signal" 28 that is delivered to the television display. In reference to Metz's Figure 6 of digital entertainment terminal 102, the equivalent to the "video TV signal" is the output of MPEG Video Decoder 129. As shown, the microprocessor 110 does not have access to the output of MPEG Video Decoder 129 to extract the 'additional information' even assuming such software was downloaded to the microprocessor. Furthermore, even assuming that the 'additional information' could be extracted at that point there is no means to route the additional information to the RS232 Interface 151. There is no path from the output of the MPEG Video Decoder back to the RS232 Interface. To perform the 'extraction' and 'routing' functions as taught by Fang would require hardware modifications of Metz's digital entertainment terminal.

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In rejecting claim 49 directed at “pushing” additional information to the viewing device the Examiner cites to Fang col 4, lines 15-55. Fang col 4, line 15 reads “In addition, a view may select to send the XDS signal 30 out the data port ...” As shown in Fig. 1, a user interface 32 is provided to turn the closed captioning on and off and to select either closed caption or text mode and to select on scree display and/or to send data out of the data port. The provision of a user and user interface to control the provision of the additional information to the viewing device does not constitute pushing the additional information to the viewing device without user interaction. Claims 65 and 72 have similar limitations.

Claims 51, 52, 63 and 74 are directed at the additional information (HTML-formatted Web data and a Program Guide with advance television program schedules) and the television signals being carried on different discrete channels. The additional information is pushed into the data stream on a particular channel and the IRD is tuned to that particular channel for at least a predetermined amount of time to push the program through the low-speed serial data port to the viewing device. The additional data is assigned its own discrete channel that is known to the IRD, the additional data is not ‘piggy-backed’ on top of the television signal. The Web data or Program Guide appear as seamless albeit time-shifted data to the user. In Wang the Web data or Program Guide data is forwarded to the data streamer 18 that forms the web pages into data packets for an MPEG-2 transport stream and MPEG-2 encoder 20 that multiplexes the data packets so that each channel has multiples digital television channels including the web pages. The data streamer generates control maps that associate web pages with their corresponding location within the MPEG-2 data stream. In other words, the Web page data is not carried on a different discrete channel and not one particular channel known to the IRD. Furthermore, Wang is transmitting the additional data via the high-speed port so that it can be received in real-time, whereas in the claimed invention the IRD must wait for at least a predetermined amount of time to push the data through the low speed port. The use of a particular dedicated channel to transmit Web page data or advanced Program Guides is not disclosed by the cited art.

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CONCLUSION

Based upon the foregoing amendment and remarks, Applicants respectfully submit that the pending claims are in condition for allowance. Prompt allowance of all pending claims is therefore requested.

Should any fees be associated with this submission, the Commissioner is authorized to charge Deposit Account 50-0383.

Respectfully submitted,



Georgann J. Grunebach, Reg. No. 33,179
Attorney for Applicants

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The DIRECTV Group, Inc.
CA/LA1/ A109
P.O. Box 956
2230 E. Imperial Highway
El Segundo, CA 90245-0956

Phone: (310) 964-4615